

5. (Previously Cancelled)

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16. (Cancelled)

17. (New) A method of treatment of a rolling element bearing component by hard
particle abrasion including the steps of:
immersing the component in a receptacle containing hard abrasive particles; and
agitating the bearing component, hard particles or both to produce relative movement
therebetween and to improve the surface topography of the component until a residual

6 compressive stress of between 200MPa and 500MPa is induced in the surface of the
7 component.

1 18. (New) A method according to claim 17 wherein the agitation is performed for
2 between 10 minutes and 1 hour.

1 19. (New) A method according to claim 18 wherein the agitation is performed for 30
2 minutes.

1 20. (New) A method according to claim 17 wherein the relative movement is
2 produced by rotating the component in one direction while the receptacle is rotated in the
3 opposite direction.

1 21. (New) A method according to claim 17 wherein the receptacle rotates at between
2 30 rpm and 90 rpm and the speed of rotation of the component is between 5 rpm and 15 rpm.

1 22. (New) A method according to claim 17 whereby the surface finish of the
2 component is improved from 0.13 m to 0.07 m.

1 23. (New) A method according to claim 17 wherein the receptacle also contains a
2 fluid.

1 24. (New) A method according to claim 23 wherein the fluid is aqueous.

1 25. (New) A method according to claim 24 wherein the fluid has a corrosion
2 inhibitor.

1 26. (New) A rolling element bearing component in which the component surface
2 exhibits a residual compressive stress of between 200MPa and 500MPa induced by a method
3 according to claim 17.

1 27. (New) A rolling element bearing component according to claim 26, wherein the
2 surface finish of the component is improved from around 0.13 m to around 0.07 m.

1 28. (New) A rolling element bearing comprising one or more components according
2 to claims 26 or 27.

1 29. (New) Use of non-corrosive hard particle abrasion to treat a rolling element
2 bearing component, the hard particle abrasion including the steps of:

3 immersing the bearing component in a receptacle containing hard abrasive particles;
4 and

5 agitating the bearing component, hard abrasive particles or both to produce relative
6 movement there between to improve the surface topography of the component and to increase
7 the compressive stress in the surface of the component by between 200MPa and 500MPa.

1 30. (New) A rolling element bearing component according to claim 17 wherein a
2 surface finish component is produced which requires no further machining.